

Records of cetacean strandings in the Northern Territory of Australia

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ABSTRACT

Fifty-seven cetacean strandings are here documented for the Northern Territory (NT) coastline. This total includes events discovered in the course of Parks and Wildlife surveys, chance encounters reported by a variety of observers, and records held by various other government agencies and institutions. A total of 35 of these records are identified to species, seven to genus (*Globicephala*, *Balaenoptera*), and the remainder can be listed only as 'dolphin' (3), 'beaked whale' (1) or 'not known' (11). Of 26 species known to occur in Australia's tropical waters only 12 had previously been confirmed for the NT, and two others were provisionally listed on the basis of specimen material requiring further analysis. Strandings reported here include 10 of those 12 species and verify the two previously listed as uncertain (*Globicephala macrorhynchus*, *Kogia sinus*). The total confirmed list for NT waters (within three nautical miles of the coast) is further expanded to 16 species, now including the melon-headed whale *Peponocephala electra* (2 strandings) and killer whale *Orcinus orca* (sighting). A further species, the sei whale *Balaenoptera borealis* (trawled carcass), can also be added to the Commonwealth waters (within two hundred nautical miles) off the NT coast.

KEYWORDS. cetaceans, whales, dolphins, strandings, Northern Territory, Australia.

INTRODUCTION

With the inclusion of offshore islands and estuary systems, the Northern Territory coastline is over 10,000 km in length. For the most part it is of low relief, consisting mainly of sand beaches and mangrove flats, interrupted by headlands which seldom rise above 30 m. Because much of this coast is remote and sparsely inhabited, discoveries of stranded cetaceans are highly fortuitous events, and often their remains are quickly lost or scattered because under tropical conditions, carcasses rapidly disintegrate. Aborigines do encounter beached cetaceans from time to time, but difficulties of communication and traditional concerns mean that few of these incidents are likely to be reported.

A potentially important source of sightings are Coastwatch flights, which are conducted along the entire Northern Territory coast on a fairly frequent basis, but the primary objective is surveillance of human activities. Recently stranded single large whales, small groups and schools are detected from time to time, and are reported, but decomposing and partly buried carcasses are likely to be passed unnoticed.

Over the past ten years one of us (RC) has conducted numerous surveys of terrestrial wildlife in coastal areas on the ground and from the air. Incidental encounters with stranded cetaceans were investigated as a matter of routine, but were usually limited by the means then in hand and unfortunately the salvage of specimen material

was generally impractical. This paper summarises these direct observations on beached cetaceans or their remains, as well as reliable reports received by wildlife authorities from other observers, and documented records held both by the Museum and Art Galleries of the Northern Territory (MAGNT), Darwin, and by the National Cetacean Stranding Database (NCSD) maintained by Environment Australia, Canberra. Such a summary of cetacean strandings in the Northern Territory has not been attempted in the past.

METHODS

Information on strandings from all sources other than newspapers, which have not been searched, has been collated according to the following format: Species, Date, Locality (including latitude/longitude) and Comments. The primary date given is qualified by the term 'stranded' (which is either the known date of stranding or an estimated recent date if the specimen(s) was found dead in fresh condition), or the term 'found' in cases where specimens were decomposing or skeletal; otherwise it is simply the date a report was received. Doubtful circumstances are explained under Comments. Locality is given as a latitude and longitude and then described with reference to named topographical features, although in some instances this and the coordinates can only be approximations. The systematic order of the records listed in this paper follows Bannister *et al.* (1996).

Specimens retained by MAGNT and referred to in this paper are listed using a reference number commencing with 'U'. Records taken from the NCSD and used in this paper are listed by NCSD followed by their number on that database.

Other abbreviations used in this paper include: NT (Northern Territory), PWCNT (Parks and Wildlife Commission of the Northern Territory), DPIF (Department of Primary Industries and Fisheries) and *NT News* (Northern Territory News).

SYSTEMATIC LIST OF CETACEANS STRANDED IN THE NORTHERN TERRITORY

Family Delphinidae

Sousa chinensis - Indo-Pacific hump-backed dolphin

Date. Found August 1948.

Locality. 12°15'S, 136°54'E. Yirrkala, near Gove.

Comments. Johnson (1964) reports four mandibles, likely of three different animals, that were picked up off the beach by Aboriginal children during the American-Australian scientific expedition to Arnhem Land. Measurements and teeth counts are given in Johnson (1964).

Date. Stranded 23 November 1985.

Locality. 12°21'S, 130°52'E. Casuarina Beach, Darwin.

Comments. Single carcass washed ashore in fresh condition, male, length 2.08 m. Skull, mandibles and teeth collected by B. Freeland, PWCNT. Condylbasal length 510 mm, width 185 mm and height 175 mm; 30 teeth alveoli in one maxillary row and 32 teeth alveoli in one mandible. Photographs in PWCNT file P1999/629. Skull and mandibles in MAGNT, registered # U254. NCSD # 180.

Date. Found 28 October 1988.

Locality. 13°10'S, 130°07'E. Channel Point, opposite North Peron Island

Comments. Skull, lacking mandibles, condylbasal length 505 mm, width 220 mm and height 190 mm; 30 tooth alveoli in maxillary row. Collected by D. Neal. No further details. Skull in MAGNT, registered # U528.

Date. Stranded c. 2 March 1996.

Locality. 11°20'S, 132°07'E. Kocker Bay, Cobourg Peninsula.

Comments. Single carcass, in fresh condition, no external injuries, c. 2 m in length and weight 69 kg. Found 3 March by A. Withers, PWCNT. Collected entire by MAGNT and has been processed (Temporary taxonomy ref. no. 342) to be accessioned as a disarticulated skeleton.

Date. Stranded 28 October 2000.

Locality. 12°20'S, 130°53'E. Lee Point beach, Darwin.

Comments. Single carcass washed ashore in reasonably fresh condition, female, length 2.1 m. There were no obvious external injuries except a quite deep cut at the base of the tail, which is sometimes indicative of being caught in a mesh net. Thirty-one teeth in one maxillary row and 29 teeth in one mandible. Photographs (nos 6761-6756) and further measurements in PWCNT file P1999/629. Entire specimen collected by MAGNT; had not yet been registered at time of writing.

Tursiops truncatus cf. *aduncus* - bottlenose dolphin

Remarks. It is likely that all *Tursiops* in NT waters are referable to the subspecies *aduncus* (Banister *et al.*). This species group was under taxonomic review at the time of writing and *aduncus* may be elevated to full species rank in the future (C. Kemper, South Australian Museum, pers. comm.).

Date. Found 22 July 1972.

Locality. 14°53'S, 135°43'E. Maria Island, Gulf of Carpentaria.

Comments. Partially weathered skull, lacking mandibles, condylbasal length 420 mm, width 205 mm, height 160 mm; 25 (+?1) teeth alveoli in one maxillary row. Collected by D. Howe. No further details. Skull in the MAGNT, registered # U3955.

Date. Found 6 October 1972.

Locality. 11°00'S, 136°46'E. Cape Wessel, Marchinbar Island.

Comments. Partially weathered skull, lacking mandibles, condylbasal length 420 mm, width 210 mm and height 170 mm; 24 (+?1) teeth alveoli in one maxilla. Collected by W. Dodd. No further details. Skull in the MAGNT, registered # U3956.

Date. Found c. 1977 during the 'dry' season (May to September).

Locality. 11°47'S, 132°34'E. Mouth of Minimini Creek, south of Cobourg Peninsula.

Comments. Carcass of an adult, badly decomposed. Found by F. Woerle, PWCNT. Carcass left on site. No further details.

Date. Found 5 June 1985.

Locality. 11°26'S, 132°58'E. North-east of Murgella, Van Diemen Gulf.

Comments. Partially weathered skull, lacking mandibles, condylbasal length 430 mm, width 210 mm and height 160 mm; 24 teeth alveoli in one maxillary row. Collected by W. H. Butler, 5 June 1985. No further details. Skull in MAGNT, registered # U241.

Date. Found 30 November 1993.

Locality. 15°30'S, 136°57'E. Urquhart Island, Sir Edward Pellew Islands.

Comments. Bleached disarticulated skeleton, including skull and mandibles. Found by R. Chatto, 30 November 1993, lying among rocks. Condylbasal length of skull c. 420 mm, mandibular tooth count (from

alveoli) 24 + 24; wear on the only remaining tooth indicates animal was fully mature. Measured and photographed, but no material collected. Photographs (nos 5253-57) in PWCNT file P1999/629.

Date. Found 29 September 1994.

Locality. 15°30'S, 136°55'E. Pearce Islet, Sir Edward Pellew Islands.

Comments. Bleached skeleton, including skull and mandibles, found on beach by R. Chatto. Condylbasal length 400 mm; 22 (+2?) teeth alveoli in one maxillary row and one mandibular row on one side. Photographed and measured but no material collected. Photographs (nos 5284 and 87) in PWCNT file P1999/629.

Date. Found May 1998.

Locality. 12°24'S, 136°55'E. 10 km south of Cape Arnhem.

Comments. Weathered skull on beach; no other skeletal remains. Found by M. Stevens, PWCNT. Skull on display in the PWCNT office, Batchelor, NT.

Stenella attenuata - pan-tropical spotted dolphin

Date. Stranded, 20 October 1999.

Locality. 11°10'S, 132°09'E. Black Point, Cobourge Peninsula.

Comments. Single adult female 2.15 m in length stranded alive; emaciated. Examined same day by PWCNT staff and euthanased on veterinary advice. Field necropsy revealed old trauma to head, but no other obvious injuries. Histology of internal organs showed changes consistent with prolonged starvation, but no evidence of disease. Whole specimen secured near site for later retrieval of skeleton by MAGNT. Photographs and report in *NT News*, 6 November 1999. Photographs (nos 6536-54) and measurements in PWCNT file P1999/629.

Stenella longirostris - spinner dolphin

Date. Found 5 June 1985.

Locality. 11° 26'S, 132° 58'E. North-east of Murgencella, Van Diemen Gulf.

Comments. Weathered partial skull, lacking mandibles and maxillae; condylbasal length >370 mm, width 150 mm and height 130. Collected by W. H. Butler on 5 June 1985. No further details. Specimen compared with other *S. longirostris* skulls in MAGNT for identification. Skull in MAGNT, registered # U242.

Date. Stranded c.19 April 1994.

Locality. 11°17'S, 132°43'E. Templer Island, off Croker Island.

Comments. Single carcass, in fresh condition, no external injuries. Found by R. Chatto, 19 April 1994, on beach. Length of body 1.5 m, tip of upper jaw to apex of melon 150 mm, height of dorsal fin 150 mm; 43+ maxillary teeth and 45+ mandibular teeth on one side. No material collected. Photographs (nos 5240, 41, 45, 47, 49, and 51) in PWCNT file P1999/629.

Date. Found September 1998.

Locality. 11° 08'S, 132° 10'E. Just east of Smith Point, Cobourge Peninsula.

Comments. Five decomposing carcasses found by A. Withers, PWCNT, over a 30 m section of beach adjacent to a broad tidal flat with rapid tidal flux. Carcasses left on site. Single vertebra collected for display at Black Point Ranger Station, Gurig National Park. No further details

Peponocephala electra - melon-headed whale

Date. Stranded, from 21 to 26 March 1996.

Locality. 11°45'S, 135°54'E. Eastern end of Elcho Island.

Comments. A mass stranding of 40 animals, occurred over six days. Examined and photographed by R. Chatto; one complete skull collected, condylbasal length 440 mm, width 250 and height 190 mm; 25 teeth alveoli in one maxillary row and 24 teeth alveoli in one mandibular row. Photographs (nos 4775, 77-79, 80, 82-85 and 91) in PWCNT file P1999/629. Complete skull in MAGNT, registered # U4438. See Chatto (2000c) for a detailed description.

Date. Found 8 October 1996.

Locality. 15°35'S, 136°31'E. North-west side of West Island, Sir Edward Pellew Islands.

Comments. Weathered skull, lacking mandibles, found on beach by R. Chatto. Condylbasal length 300 mm, width 200 mm, 19+ teeth alveoli on either side. Photographed and measured but no material collected. Photographs (nos 5264 and 75) in PWCNT file P1999/629. Identification confirmed with reference to MAGNT # U4438.

Pseudorca crassidens - false killer whale

Date. Found 1968.

Locality. 11°13'S, 131°59'E. Trepan Bay, Cobourge Peninsula.

Comments. Bleached skull and mandibles, condylbasal length 620 mm, width 350 mm and height 260 mm; nine teeth in each maxillary row, eight in each mandible. Collected by H. J. Frith, CSIRO. No further details. Skull and mandibles in the Museum and Art Galleries of the Northern Territory (MAGNT), registered # U2056.

Date. Found 8 October 1996.

Locality. 15°35'S, 136°31'E. North-west side of West Island, Sir Edward Pellew Islands.

Comments. Weathered skull, lacking mandibles, found on beach by R. Chatto. Condylbasal length 560 mm, width 330 mm, height 260 mm, c. 9-10 pairs of teeth in each jaw. Photographed and measured, but no material collected. Photographs (nos 5267, 69, 71-72) in PWCNT file P1999/629.

***Globicephala macrorhynchus* - short-finned pilot whale**

Date. Stranded 18 March 1999.

Locality. 11°11'S, 130°22'E. Cape Van Diemen, NE tip of Melville Island.

Comments. Three adults and two juveniles on beach, reported by Coastwatch. When examined next day by R. Chatto, only the smallest was still alive. It was euthanased and all specimens were left on site. Reported in *NT News*, 19 March 1999. Photographs (nos 5798-5804) in PWCNT file P1999/629. See Chatto (2000d) for a detailed description.

***Globicephala* sp. - pilot whale**

Date. Found 1983.

Locality. 12°05'S, 135°22'E. Jigaimarea Point, Howard Island, NW Arnhem Land.

Comments. A school of 30-50 ashore. Source of report not stated, no further details. NCSD # 168.

Date. Found 1984.

Locality. 12°02'S, 134°58'E. Yabooma Island, off Millingimbi, NE Arnhem Land.

Comments. A school of 20 animals reported to have stranded - one died and the remainder escaped. Source of report not stated, no further details. NCSD # 169.

Date. Found 1984.

Locality. 12°02'S, 134°58'E. Yabooma Island, off Millingimbi, NE Arnhem Land.

Comments. Three animals reported to have stranded - one died and two escaped. Source of report not stated, no further details. NCSD # 170.

Date. Stranded c. 31 March 1985.

Locality. 15°24'S, 136°13'E. Rosie Creek, SW Gulf of Carpentaria.

Comments. Group of eight animals seen on 1 April 1985 comprising six adults and two calves; one large male still alive. Some whales on beach, some above high tide mark and some washed inland of tree line by cyclone surge. Source of report not stated, no further details. NCSD # 173.

Date. Found 10 April 1985.

Locality. 16°04'S, 137°17'E. Myoorlka Island, mouth of the Robinson River, SW Gulf of Carpentaria.

Comments. Single animal on beach, partly covered by sand and weed. Source of report not stated, no further details. NCSD # 174.

***Orcaella brevirostris* - Irrawaddy dolphin**

Date. Found 16 July 1948.

Locality. 12°15'S, 136°41'E. Melville Bay, near Gove.

Comments. Johnson (1964) reports two skulls of unknown sex, one with a partial body skeleton, were picked up at an Aboriginal campsite during the American-Australian scientific expedition to Arnhem Land. The skulls were likely to have been the remains

of dolphins eaten by Aborigines and caught in Melville Bay. Photographs and some skull measurements are given in Johnson (1964).

Date. Found 12 June 1992.

Locality. 12°50'S, 130°16'E. Fog Bay, 70 km SW of Darwin.

Comments. Single carcass, decomposing, c. 1.5 m in length, with bulbous head partly eaten by dingos. Found and examined by R. Chatto. No material collected. Photographs in PWCNT file P1999/629.

Date. Found August 1997.

Locality. 12°37'S, 130°31'E. Indian Island, Bynoe Harbour.

Comments. Weathered skull on beach, no other skeletal remains. Collected by PWCNT staff. Skull on display in the PWCNT Office, Batchelor, NT.

Date. Found 27 May 1999.

Locality. 13°22'S, 136°08'E. North-east side of Isle Woodah, Gulf of Carpentaria.

Comments. Collapsed and dehydrated carcass, skin and flippers still present, body length estimated 1.5 m. Skull separate, clean, mandibles lacking, 18 tooth alveoli in each maxilla. Found by R. Chatto, no material collected. Photographs (nos 6110 and 6111) in PWCNT file P1999/629.

Date. Stranded 1 October 1999.

Locality. 12°46'S, 130°22'E. Dundee Beach, Fog Bay.

Comments. Single adult female 1.93 m in length, washed ashore dead. Examined same day by PWCNT staff; six 5 cm cuts in a line along its belly. These were likely to have been done by a person with a knife, probably after death to cause the animal, which may have been removed from a fishing net, to sink. Estimated to have died 1-2 days previously. Necropsy indicated that the animal was healthy and in good condition prior to death. Specimen currently held frozen by MAGNT (Temporary taxidermy ref. no. 1366) to be accessioned as a disarticulated skeleton. Photographs (nos 6409-14) and measurements in PWCNT file P1999/629.

Dolphin, unidentified

Date. Found June 1983.

Locality. 13°06'S, 130°07'E. Just north of Channel Point, opposite North Peron Island.

Comments. Partly decomposed carcass lying in intertidal zone, estimated length c. 2.5 m. Found by A. Donati, Department of Primary Industries and Fisheries (DPIF). Specimen left at site, no further details.

Date. Stranded 13 April 1985.

Locality. 13° 50'S, 136° 00'E. South of Cape Barrow, west of Groote Eylandt.

Comments. Found alive, but rescue not attempted. Possibly *Tursiops* but definitive details not recorded. NCSD # 175.

Date. Found 17 May 1985.

Locality. 13°39'S, 129°48'E. c.17 km south of Cape Scott, 160 km SW of Darwin.

Comments. One animal ashore and a second floating near shore c. 2 km to west. Source of report not stated, no further details. NCSD # 179.

Family Ziphiidae

Ziphius cavirostris

Cuvier's or goose-beaked whale

Date. Found 1969.

Locality. 11°22'S, 132°18'E. Cobourg Peninsula.

Comments. Weathered skull, lacking mandibles, condylobasal length 910 mm, width 480 mm and height 500 mm. Collected by D. Lindner, PWCNT. No further details. Photographs in PWCNT file P1999/629; skull in MAGNT, registered # U2055.

Date. Found 30 July 1998.

Locality. 12°02'S, 134°57'E. Yabooma Island, off Millingimbi.

Comments. Bleached skeletal remains including skull, lacking mandibles, found high on beach adjacent to low shrubs by R. Chatto. Condylobasal length c. 1000 mm, width c. 500 mm, height c. 400 mm; c. 3 m portion of vertebral column lying in situ. Photographed and a single vertebra collected; retained in Darwin office of PWCNT. Photographs (nos 5499, 5500 and 5501) in PWCNT file P1999/629. Identified by G. J. B. Ross, who commented that it was probably a mature female, based on fusion of the epiphyses to the centra of the vertebrae and on skull characters. Skull collected by R. Chatto on 18 November, 2000; deposited at MAGNT (not registered at time of writing).

Beaked whale, probably *Ziphius cavirostris*

Date. Found 2 August 1984.

Locality. 12°03'S, 134°55'E. A small island (possibly called Rakuna), just south of Yabooma Island off Millingimbi.

Comments. Single animal, length 5.18 m stranded alive but date uncertain. Reported by the Northern Land Council to PWCNT. When examined by P. Whitehead, PWCNT, on 2 August, the carcass had decomposed to the point where the skull and mandibles were 'clean' except for some skin at the very tip; no sign of erupted teeth or alveoli and deterioration of the genital/anal area precluded determination of sex. Specimen photographed and measured, but no necropsy was performed and no material was collected because of the totemic significance of the animal to the Aboriginal traditional owners. Those who saw the whale alive identified it as *Z. cavirostris* with reference to the illustration of the Indo-Pacific form in Watson (1981: 118). Measurements and five photographs (un-numbered) on PWCNT file P1999/629. NCSD # 31.

Family Physeteridae

Physeter macrocephalus - sperm whale

Date. Stranded c.17 November 1980.

Locality. 11°39'S, 133°22'E. Off north-west side of South Goulburn Island, on a reef c. 2 km offshore.

Comments. Freshly dead when found by a fisherman on 18 November 1980. Lodged among mangroves on South Goulburn Island when investigated by MAGNT staff on 24 November 1980, estimated length 13 m. Reduced to a skeleton by late December. Substances from rotting carcass had killed the mangroves over a radius of 100 m (I. Archibald, MAGNT, pers. comm.). Aboriginal traditional owners would not allow any part of the specimen to be collected. NCSD # 166. See also Hodgkinson (1987) for further details regarding the Aboriginal issues concerning the stranding.

Date. Stranded c. 1987.

Locality. 14°13'S, 129°25'E. Beach near Port Keats.

Comments. Bleached skull observed from aircraft by R. Chatto, 15 December 1992. Advised by Sgt. Kevin Winzar of Port Keats police that the whale washed 9 km to the NNW about 1987. It was not examined and was left to disintegrate on site. Sgt. Winzar photographed the skull on 17 December 1992 and measured the width at 120 cm and height at 70 cm. No further details. Photographs in PWCNT file P1999/629.

Date. Stranded 22 January 1993.

Locality. 12°21'S, 130°52'E. Casuarina Beach, Darwin.

Comments. Single, adult male stranded alive, 15.4 m in length. Grounded in shallows and died soon after. Skeleton collected for display by MAGNT (file BP2000/793); not registered in scientific collection. Photographs and report in *NT News*, 23 January, pp 1,14,15. See also Chatto (2000a) for more detailed description.

Date. Stranded between 3 and 6 August 2000.

Locality. 11°34'S, 133°05'E. 1 km south of Brodgen Point, east of Murgena.

Comments. Freshly dead male lying in the intertidal zone, length c. 15 m. Found by P. Luton, PWCNT, on 6 August 2000. It had not been there on 3 August 2000. Examined and photographed by R. Chatto on 17 August 2000; no external injuries; 24+ teeth in one mandibular row, several broken. Carcass left on site. Site revisited by R. Chatto on 17 November, 2000. Skull (minus all teeth), some vertebrae and a rib bone still present. Additional measurements and photographs taken, and rib collected and deposited in MAGNT (not yet registered at time of writing). Photographs (nos 6742-48 and 6844-52) and measurements in PWCNT file P1999/629.

Family Kogiidae

Kogia simus - dwarf sperm whale

Date. Stranded 19 August 1995.

Locality. 12°22'S, 130°51'E. Nightcliff Beach, Darwin.

Comments. Adult male, length 2.1 m, stranded alive late afternoon. Towed out to sea and released. Stranded next day on Mindil Beach, where it died during rescue attempts. Photographs and report in *NT News*, 21 August 1995, p 1. Necropsy performed, photographs and measurements taken; details in PWCNT file P1999/629. Specimen currently in MAGNT freezer (Temporary taxidermy ref. no. 126); to be accessioned as a disarticulated skeleton. See Chatto (2000b) for a detailed description.

Family Balaenopteridae
***Balaenoptera musculus* - blue whale**

Date. Found 19 December 1980.

Locality. 12°04'S, 131°18'E. Beach on the east side of Cape Hotham.

Comments. Specimen in skeletal condition, estimated length c. 25 m. Found by a fisherman who removed and sold some vertebrae as garden seats. Remainder of skeleton collected by MAGNT staff some months later and put on public display at MAGNT; not registered in scientific collection. Identification confirmed by S. Van Dyck, Queensland Museum, on the basis of skull measurements. NCSD # 165.

***Megaptera novaeangliae* - humpback whale**

Date. Found 1981.

Locality. 11° 59'S, 135° 49'E. Napier Peninsula, NE Arnhem Land.

Comments. Found dead with a hole in its side, estimated length 10 m. Source of report not stated, no further details. NCSD # 167.

***Balaenoptera* sp.**

Date. Stranded January 1996.

Locality. 13°10'S, 136°17'E. Western point of entrance to Myoola Bay, Gulf of Carpentaria.

Comments. Carcass washed ashore, estimated length 10+ m. Found February 1 and photographed by Waka, an Aboriginal traditional owner from the Banyalla community. Carcass lodged near mangroves in an advanced state of decomposition, but numerous throat grooves still evident. R. Chatto visited site with Waka in May 1999, at high tide, but no remains could be seen. No further details. Photograph in PWCNT file P1999/629.

Date. Stranded c. 19 April 1999.

Locality. 12°24'S, 136°55'E. 15 km south of Cape Arnhem, near Gove.

Comments. Decomposed carcass, estimated length 10+ m washed ashore on or just before 19 April 1999. Dhimurru Land Management Aboriginal Corporation provided photographs and video taken 10 May 1999, which show a flipper of moderate length, numerous throat grooves and the skull missing. Remains left on site, and were still present but very decomposed when

examined and photographed by R. Chatto on 27 May 1999. No further details. Photographs (nos 6117-6120) in PWCNT file P1999/629, copy of video in Darwin office of PWCNT.

Family and species unknown

Date. Found February 1984.

Locality. 15°40'S, 137°00'E. Vanderlin Island, Sir Edward Pellew Islands.

Comments. A group of six whales ashore. Reported by Coastwatch whose observers supposed that they could have been driven ashore by cyclone 'Kathy'. No further details.

Date. Stranded 1 August 1984.

Locality. 12°02'S, 134°56'E. Yabooma Island off Millingimbi.

Comments. Alive when seen by Coastwatch; length estimated at 4.5 m. Coastwatch observers commented that the weather was rough at the time and described the whale as black with white marks on the head, a colour pattern suggestive of *Z. cavirostris*. No further details. NCSD # 171.

Date. Found April 1985.

Locality. 15°36'S, 137°10'E. 2 nautical miles SSE of Cape Vanderlin, Sir Edward Pellew Islands.

Comments. Two animals, possibly a mother and calf. Observer in aircraft thought they were too large for dolphins. Source of report not stated, no further details. NCSD # 172.

Date. Found 16 April 1985.

Locality. 15°02'S, 135°34'E. North of mouth of Limmen River, Gulf of Carpentaria.

Comments. Single animal on beach, dead. Reported by Coastwatch. No further details. NCSD # 176.

Date. Found 16 April 1985.

Locality. 15°36'S, 136°33'E. West Island, Sir Edward Pellew Islands.

Comments. At least one animal on beach, dead. Reported by Coastwatch. No further details. NCSD # 177.

Date. Found 1985 during 'dry' season (May to September).

Locality. 11°20'S, 132°56'E. Just east of De Courcy Head, north of Murgarella.

Comments. Decomposing carcass, estimated length 5 m. Observed from aircraft by A. Donati, DPIF. No further details.

Date. Found 9 May 1985.

Locality. 16°00'S, 137°12'E. 2 nautical miles north of Robinson River mouth, SW Gulf of Carpentaria.

Comments. Single animal, decomposing, estimated dead for 2-3 weeks. Length said to be approximately 6-7 m. Reported by Coastwatch, who said it appeared to be unlike *Globicephala* and was possibly a baleen whale. However, this is very small for such. No further details. NCSD # 178.

Date. Found pre 1990.

Locality. 12°54'S, 130°20'E. Just south of Finnis River mouth.

Comments. Skeletal remains of large whale, one rib c. 3 m in length, possibly either a large *Physeter* or a large baleen whale. Reported to R. Chatto in June 1999 by Aboriginal traditional owner. No further details.

Date. Found early 1990s, in month of February.

Locality. 12°13'S, 136°15'E. North-east part of Arnhem Bay.

Comments. Bleached skeletal remains of a whale c. 5 m in length, but possibly longer. Observed from aircraft by M. Stevens, PWCNT. Reported to R. Chatto, June 1999. No further details.

Date. Stranded December 1994.

Locality. 11° 57'S, 134° 10'E. West Point, near Maningrida.

Comments. Large individual washed ashore, left untouched. Reported to R. Chatto by Northern Land Council in 1995. Site visited by R. Chatto on 17 November, 2000. One mandible (no teeth alveoli; curved length 2.97 m), on vertebra and two ribs remaining. The specimen can now be confirmed as a baleen whale. The vertebra was collected and deposited in MAGNT; not yet registered at time of writing. Photographs (nos 6866-72) and measurements in PWCNT file P1999/629.

Date. Stranded January 1998.

Locality. 11°02'S, 132°35'E. North-east side of Croker Island.

Comments. Five small black whales stranded on beach; four c. 1.5 m and one c. 1.0 m in length. Report by Aboriginal traditional owners via Northern Land Council to R. Chatto stated that the animals "had a dorsal fin but a blunt nose, not like normal dolphins". Two were returned to the sea but the others persistently re-stranded, and were left on site. One had cuts to the belly area. No further details.

DISCUSSION

There is scant information on the occurrence of cetaceans in NT waters. This unsatisfactory situation is the result of many factors, including the remoteness of much of the Territory's coastline, the sparse and non-randomly distributed human population, the sporadic nature of human activity in inshore waters, poor communication, historical disinterest and continuing low levels of scientific inquiry. These latter two issues are due in part to the cost and logistical difficulties of survey and salvaging specimens from remote areas.

Thus when Bannister *et al.* (1996) prepared the first comprehensive review of Australia's cetaceans, they could confidently list for the Northern Territory only 12 (inclusion of *Mesoplodon layardii* in their Table 1 is an error) of the 26 species known to occur in Australia's tropical waters. They provisionally included two others on the basis of uncertain identification of specimen

material. Records based on strandings, accumulated from a variety of sources and summarised here, include ten of those 12 species, while the two provisionally included (*Globicephala macrorhynchus*, *Kogia simus*), are now confirmed. The melon-headed whale *Peponocephala electra*, can now also be added to the Northern Territory list. Two species listed from the NT by Bannister *et al.* (1996), but yet to be recorded by strandings are the rough-toothed dolphin *Steno brenadensis* and common dolphin *Delphinus delphis*.

In addition, another species can now be confirmed for NT waters and an additional species to Commonwealth waters off the NT coast. Confirmation of the killer whale, *Orcinus orca*, in NT waters is based on a sighting made on 7 April 1999 at Yirrkala (12° 15'S, 136° 54'E) by C. Lane, and reported by the Dhimurru Land Management Aboriginal Corporation. At least one animal was seen from shore at around 12.30 h approximately 1 km out to sea and heading south. The animal was described as 3-4 times the size of a dolphin, strikingly marked with black on top and white below, and with a very large dorsal fin. (The dolphins most frequently seen in this area are *Sousa chinensis* and *Tursiops truncatus* cf. *aduncus*, i.e. individuals about 2.5 m in length (Chatto, pers. obs.)) One old Aboriginal lady said that she had not seen this species for 20 years, but does remember seeing them from time to time when her children were young. Confirmation of the sei whale, *Balaenoptera borealis*, in Commonwealth waters off the NT coast is based on a sample of baleen from a dead specimen c. 15 m in length, trawled up from 113 m by a Thai fishing vessel on 1 September 1989 at 10° 21'S, 133° 55'E, approximately 160 kilometres north-east of Croker Island. The specimen of baleen was donated to MAGNT where it is on display but it has not been registered in the scientific collection.

Of the total series of 57 stranding events reported on here (Table 1), 35 were identifiable to species, seven to genus (*Globicephala*, *Balaenoptera*), and the remainder could be described only as 'dolphin' (3), 'beaked whale' (1) or 'unknown' (11).

This series is too small and the data available for most events too meagre for intra- and inter-species comparisons. Similarly, there are too many confounding factors and biases to search for any patterns in geographic distribution of the 57 events. For instance, there is no way of telling whether any of the singletons found dead were alive when they beached, or if they died at sea and their floating carcasses had been transported by current, wind and tide over considerable distances before they eventually washed ashore.

However, it is appropriate to consider the results of this study in terms of the known distributions of these 13 species and their habitat preferences, seasonal movements or migrations. We have grouped them according to broad oceanographic categories based on

Table 1. Species, number of stranding events and number of individuals per event

Species	Common name	No. of stranding events	No. of individuals per event
<i>Balaenoptera musculus</i>	blue whale	1	1
<i>Balaenoptera</i> sp.	balcen whale sp.	2	1 (x2)
<i>Globicephala macrorhynchus</i>	short-finned pilot whale	1	5
<i>Globicephala</i> sp.	pilot whale sp.	5	1, 3, 8, 20, 30-50
<i>Kogia sima</i>	dwarf sperm whale	1	1
<i>Megaptera novaeangliae</i>	humpback whale	1	1
<i>Orcaella brevirostris</i>	Irrawaddy dolphin	5	1 (x4), 2
<i>Peponocephala electra</i>	melon-headed whale	2	1, 40
<i>Physeter macrocephalus</i>	sperm whale	4	1 (x4)
<i>Pseudorca crassidens</i>	false killer whale	2	1 (x2)
<i>Sousa chinensis</i>	Indo-Pacific hump-backed dolphin	5	1 (x 4), 3
<i>Stenella attenuata</i>	pan-tropical spotted dolphin	1	1
<i>Stenella longirostris</i>	spinner dolphin	3	1, 1, 5
<i>Tursiops truncatus</i> cf. <i>aduncus</i>	bottlenose dolphin	7	1 (x 7)
<i>Ziphius cavirostris</i>	Cuvier's beaked whale	2	1 (x2)
'beaked whale'	beaked whale sp.	1	1
'dolphin'	dolphin sp.	3	1 (x3)
'unknown cetacean'	unknown cetacean sp.	11	1 (x7), 1+, 2, 5, 6

water temperature and commonly used to define distributions, as follows.

Tropical – subtropical. Includes two inshore species (Indo-Pacific hump-backed dolphin and Irrawaddy dolphin), and two offshore species (melon-headed whale and the spinner dolphin), both of which range into coastal waters.

The Indo-Pacific hump-backed dolphin is restricted to coastal, inshore and estuarine habitats throughout northern Australia, ranging south along the WA coast to about 24°S, and to Moreton Bay in Queensland, at 27°30'S (Bannister *et al.* 1996). Stragglers have been recorded as far south as Sydney (Llewellyn *et al.* 1994). This species is not known to be migratory, but individuals may move about a great deal along-shore and between islands. It appears to be loosely social in small groups (Ross *et al.* 1994) and is not prone to strand. This species is often seen in very shallow water in large tidal variation areas and does not become stranded (Chatto pers. obs.). G. Ross (pers. comm.) has also seen this species school fish up onto sandbanks and then slide up to grab them without becoming stuck. Thus all five NT records listed here probably represent mortality at sea rather than active strandings.

The Irrawaddy dolphin has a similar but slightly more restricted distribution in northern Australia, occurring on the WA coast north of Broome (18° S), throughout the NT and to Gladstone (23° 50'S) on the Queensland coast (Banister *et al.* 1996). It is usually encountered in groups of less than 6 animals, but groups of 10-15 animals have been reported (Marsh *et al.* 1989). As this species is not prone to strand, the five NT records listed here probably also represent mortality at sea.

The spinner dolphin inhabiting NT waters has recently been described as a subspecies – *Stenella*

longirostris roseiventris (Perrin *et al.* 1999). It is a small form restricted to the shallow inner waters of South-east Asia, including the Gulf of Thailand, Timor and Arafura Seas, and similar waters of Indonesia, Malaysia and northern Australia; it is not known to be migratory. In deeper oceanic waters it is replaced by the typical and larger pelagic form, *S. l. longirostris* (Perrin and Gilpatrick 1994). Little is known of the occurrence of spinner dolphins in northern Australia, even though they were commonly caught by accident in the Taiwanese gillnet fishery for sharks in the Timor and Arafura Seas (Harwood and Hembree 1987). *Stenella l. roseiventris* is known, however, to feed on shallow water benthic and reef dwelling fish, squid, cuttlefish and shrimp (G. Hembree, cited in Perrin *et al.* 1999). More southern records, to Bunbury in WA (30°19'S, Bannister *et al.* 1996), from the Great Barrier Reef and in NSW to Uranga (30°31'S, Llewellyn *et al.* 1994) appear to be of the pelagic form. The close grouping of the three NT records listed here over less than 1 degree of longitude, and including a mass stranding, may indicate a centre of activity for *S. l. roseiventris* in that region, as there is no reason to suspect it may be attributable to greater observer activity.

The melon-headed whale is a highly social deep-water species, occurring in large schools and often associated with other oceanic dolphins and small whales (Leatherwood and Reeves 1983; Perryman *et al.* 1994). Schools have been sighted over the continental slope off northern NSW (Dawbin *et al.* 1970) and several mass strandings have occurred in southern Queensland (Bryden *et al.* 1997) and NSW (Dawbin *et al.* 1970; Smith 1997). The small school that stranded on Elcho Island in the NT in 1996 may have become disorientated when navigating in unfamiliar shallows, however little is known about

this species which may not be restricted to deep waters only (Ross pers. comm.).

Tropical – temperate. Four ecologically very different species fit this general category – pan-tropical spotted dolphin, bottlenose dolphin, false killer whale and dwarf sperm whale.

The spotted dolphin occurs circumglobally in deep offshore waters, most frequently where sea surface temperatures exceed 25° C and overlie a sharp thermocline at depths less than 50 m (Perrin and Hohn 1994). It is often encountered in large schools and is often associated with spinner dolphins. In Australia, spotted dolphins are known to occur north of Augusta in WA (38° 20'S) and north of Sydney on the east coast (34° 00'S, Bannister *et al.* 1996). Their activity patterns in Australian waters are not known, but elsewhere, seasonal inshore-offshore movements occur in spring (Leatherwood and Reeves 1983). The timing of the one NT record of a compromised adult fits this pattern.

The *aduncus* form of bottlenose dolphin is very widely distributed in tropical, subtropical and temperate Australian waters, ranging south to about 32° S. Where it occurs sympatrically with the hump-backed dolphin it tends to be active slightly further offshore, but often in depths of less than 10 m, and may range to about 10 km beyond the shelf (Bannister *et al.* 1996). Because bottlenose dolphins navigate confidently in shallow and confined waters, the seven NT records, all singleton events, probably represent mortality at sea. This appears to be the case with the typical *truncatus* form in Victoria where many events involve aged, diseased, injured and very young animals (Warneke, unpublished data).

The false killer whale is an oceanic species, rarely approaching land except where the continental shelf is narrow. In Australia, false killers have been widely recorded by some sightings and strandings in all states. Strandings occur throughout the year, but the majority of mass events occur from May to September on south and south-east coasts, indicating a seasonal movement inshore or along the continental shelf (Bannister *et al.* 1996), possibly associated with abundances of prey. The two singleton events in the NT are unrevealing, but probably represent mortality at sea.

The short-finned pilot whale occurs throughout tropical and warm temperate regions of Indian, Pacific and Atlantic Oceans, but the southern limits of its range are poorly known, partly because of the difficulty of distinguishing it from the closely similar long-finned pilot whale, *Globicephala melas*, at sea. The short-finned pilot whale appears to be widely distributed off Australia's northern coast where it ranges into continental seas. Records from temperate waters on the southern coast (South Australia, Tasmania) probably reflect the influence of the south-flowing, warm Leeuwin Current and/or East Australia Current (Bannister *et al.* 1996). Because *G. melas* is restricted to temperate waters

(the most northern record in Australia is of a straggler at Point Lookout in Qld (27° 26'S, Paterson 1986) it is reasonable to assume that the five NT 'pilot whale' records are of this species, making six in total. The high proportion of school strandings (5) in this series and their wide geographic spread indicate considerable activity in NT waters and that this species is at high risk when navigating near the shore in those areas. The large and fast tidal variations of the NT may also be influential in this regard.

The dwarf sperm whale is primarily oceanic and occurs world wide within about 40° N and S of the equator. The frequency and distribution of strandings in some regions appears to correlate with continental shelf width and important current systems, and suggests that the species might be more abundant in the warmer parts of its range (Caldwell and Caldwell 1989). It feeds primarily on benthic and demersal organisms. Dietary studies in southern Africa (Ross 1984) indicate that juveniles and immatures are active over the outer continental shelf and slope where suitable prey is often more abundant and that adults feed in deeper waters beyond the shelf. Comparative data suggest that dwarf sperm whale is more active nearer to coasts than the pygmy sperm whale, *Kogia breviceps*, but in Australia the former strands very rarely by comparison, with single records only in WA, SA, NSW and now the NT.

Tropical – subantarctic. Cuvier's beaked whale occurs world-wide within this broad latitudinal range. It is a true oceanic species, normally ranging far from land. It is thought to be resident in some areas, e.g. off Japan, where it is most common in waters deeper than 1000 m (Nishiwaki and Oguro 1972). In the Australian region it is known from a few strandings in all mainland states, but many more (15) in Tasmania (Bannister *et al.* 1996). Strandings have been recorded in all months except September to January, but this indication of seasonality of occurrence may be an artefact of the small series of just 12 dateable events. No pattern of seasonality has been detected in strandings elsewhere (Heyning 1989). The two certain and one probable NT events listed here suggest that the species is not uncommon in the region, but otherwise are unrevealing.

Tropical – Antarctic. Sperm whales range widely in all oceans and tend to concentrate in the vicinity of steep continental shelves, oceanic islands and sea mounts where favoured prey are more abundant. Breeding females form stable nursery schools, while adult males are solitary or associate in temporary bachelor schools. Judging by the frequency of strandings, sperm whales are common in Australian waters. The majority of events have occurred in the south-east and most involved single animals, 75% of which were male. In striking contrast mass strandings are rare, except in Tasmania (15 events, Warneke, unpublished data). The series shows a strong seasonal bias, with most singleton events occurring in

spring to autumn, and mass events in January – March, September and October. While this pattern accords with the known generalised open ocean movement of the species southwards in summer (Rice 1989; Bannister *et al.* 1996), very little is known of its activities near-shore. The four NT singleton events listed here of known date indicate that sperm whales, probably only adult males, are present in the region during summer.

Two forms of blue whale are recognised – the world wide ‘true’ blue, *Balaenoptera musculus intermedia*, and the southern hemisphere pygmy blue, *B. m. breviceauda*, which is most abundant in the Indian Ocean (Yochem and Leatherwood 1985). Both forms migrate between warm water breeding grounds at low latitudes and cold water feeding grounds at high latitudes – the blue penetrating to the Antarctic ice edge, whereas the pygmy blue normally feeds north of 55° S. In recent years blue whales have been encountered relatively close to the Australian coast at various places, mainly in southern waters from Rottnest Island WA to southern NSW; the most northern records being sightings off the Dampier Archipelago in WA at about 20° S (Bannister *et al.* 1996) and a stranding at Couti Uti in Qld (22°20’ S, Paterson 1986). The single confirmed record for the NT extends the known range in the Australian region by 8 degrees of latitude. At the time this paper was going to print, a 21 m blue whale washed up dead on to Troughton Island (13°45’ S, 126°09’ E) in NW Western Australia on November 7, 2000 (Chatto pers. obs.).

Two relatively discrete Australian populations of humpbacked whales undertake a seasonal north-south migration similar to that of the blue whale, but between breeding grounds on either side of the continent at about 15–20° S and feeding grounds at about 60–70° S; some individuals may remain in the tropics, e.g. in Torres Strait (Bannister *et al.* 1996). Migrating animals generally pass close to the coast at various points, and stragglers may enter bays and inlets where they navigate confidently in confined shallow waters, e.g. in Victoria (Warneke 1995a). Consequently strandings are rare and apart from live animals entangled in netting they almost invariably involve individuals that have died at sea from natural causes. The NT stranding appears to be one such natural event.

Other species likely to strand in the Northern Territory. Finally, it remains to consider what species might in future strand in NT waters and to emphasise the importance of investigating as many events as possible to obtain authentic identifications and to document little known aspects of the species’ biology. Bannister *et al.* (1996) lists 14 species that are widely distributed in the tropical region and are likely to range into the tropical waters of the Australian region, but which have not been authentically recorded in the NT. We provide brief comment on each of these, as well as

the rough-toothed dolphin, killer whale and Bryde’s whale not included in the review above.

The rough-toothed dolphin, *Steno bredanensis*, is widely distributed in deep offshore waters in tropical to warm temperate latitudes, including the Indo-Australian Archipelago, but it is not known to be numerous. It is social and gregarious, and associates with pilot whales and bottlenose dolphins (Leatherwood and Reeves 1983). It was listed for the NT by Bannister *et al.* (1996).

Risso’s dolphin, *Grampus griseus*, is abundant and cosmopolitan in tropical to warm temperate waters (Leatherwood and Reeves 1983) and although an oceanic species it is frequently seen over the continental slope and ranges onto the shelf in parts of Australia (e.g. Corkeron and Bryden 1992).

The striped dolphin, *Stenella coeruleoalba*, is widely distributed in deep waters in tropical to warm temperate latitudes, ranging to the outer edge of the continental slope. It is social and gregarious, and is known to be migratory in some regions (Perrin *et al.* 1994). In Australia, southernmost records are strandings and may be related to the south-flowing warm Leeuwin and East Australia Currents – at Augusta WA (34° 20’ S, Bannister *et al.* 1996) and at Woolongong NSW (34° 23’ S, Llewellyn *et al.* 1994).

The common dolphin, *Delphinus delphis*, is very widely distributed and abundant in tropical to temperate latitudes, but there are very few records from Australian tropical waters (Bannister *et al.* 1996), which may reflect its preference for areas of high topographical relief and upwellings (Evans 1994) and the very wide continental shelf around northern Australia. The species is often encountered over the narrow continental shelf in south-eastern Australia, where many singleton strandings have been recorded (Nicol 1987; Kemper and Ling 1991; Warneke 1995b); mass strandings are rare, except in Tasmania. The species *Delphinus tropicalis* is more likely to occur in waters off the NT coast than *D. delphis* (Ross pers. comm.).

Fraser’s dolphin, *Lagenodelphis hosei*, is abundant and widely distributed in oceanic tropical waters (Perrin, Leatherwood and Collet 1994) and could be expected in waters off the NT coast (Ross pers. comm.). This species occasionally strays into temperate regions, where single and mass strandings have occurred, e.g. in NSW (Llewellyn *et al.* 1994) and Victoria (Warneke 1995c).

The pygmy killer whale, *Feresa attenuata*, is primarily tropical in distribution; records from higher latitudes being associated with warm boundary currents (Ross and Leatherwood 1994). In Australia it is known from sightings in north-eastern waters and several strandings in NSW (Llewellyn *et al.* 1994) and WA (Bannister *et al.* 1996).

The killer whale, *Orcinus orca*, is cosmopolitan, occurring from the equator to polar seas. In Australia

this species is often seen along the continental slope and on the shelf, and has been recorded from all states, but more commonly in the southern waters (Bannister *et al.* 1996). Killer whales navigate confidently in very shallow waters, consequently live strandings are rare. Several singleton events in Victoria and Tasmania involved very old and juvenile individuals and one neonate that had died at sea, or were moribund when they beached (Warneke, unpublished data), ie they were instances of natural mortality. Similar events can be expected in the NT.

Longman's beaked whale, *Indopacetus pacificus* (Moore 1968) (= *Mesoplodon pacificus* Longman 1926), is known only from two skulls, one from Mackay, Qld, at 21°09'S and the other from Danane, just north of the equator in Somalia – points which suggest an Indo-Pacific distribution. At an estimated length of c. 7.5 m it is by far the largest mesoplodontid. Intriguingly during the past three decades there have been numerous sightings of large beaked whales very similar in form to the southern bottlenose whale *Hyperoodon planifrons* (see below), in tropical waters of the Indian and Pacific Oceans. A recent review of these sightings and some associated photographs by Pitman *et al.* (1999) indicates that this 'tropical bottlenose whale' differs from *H. planifrons* in several respects and that it is almost certainly the elusive *I. pacificus*. Any report of a large beaked whale stranded in the NT should be promptly investigated.

Blainville's beaked whale, *Mesoplodon densirostris*, is an oceanic species widely distributed in tropical to temperate waters world wide. In Australia it is known only from strandings, in most of the southern states and from WA and Qld south of 20° 10'S (Mead 1989). Records in NSW, Victoria and on the west coast of Tasmania may be of stragglers ranging southwards in the warm Leeuwin and East Australia Currents.

The southern bottlenose whale, *Hyperoodon planifrons*, is included here only on the basis of the proximity of a record (the type specimen) from Lewis Island in the Dampier Archipelago (20° 35'S) in WA. The normal range of this species is considered to be south of 30° S to the Antarctic ice edge (Bannister *et al.* 1996). Although commonly and widely encountered in deep oceanic waters (Ross 1984) this species appears to avoid continental seas and strands infrequently (Baker 1983).

The pygmy sperm whale, *Kogia breviceps*, has a similar world wide distribution to its congener *K. simus*, but tends to remain in deeper waters further offshore (Caldwell and Caldwell 1989). However, in Australia *K. breviceps* strands much more frequently and most records are concentrated on the east and south-east coasts, especially in NSW (38 records to 1992, Llewellyn *et al.* 1994), possibly because of the relatively narrow continental shelf in much of that region.

Two rorquals – minke whale, *Balaenoptera acutorostrata*, and Bryde's whale, *B. edeni*, are known from tropical waters. In the Australian region their status and movements are not well understood, and the situation is further complicated by the presence of two forms of each species. An 'inshore' Bryde's whale is confined to the tropics, whereas a larger 'offshore' form ranges into temperate waters, where it has been recorded as far south as Bass Strait (Dixon and Frigo 1994). Similarly, a diminutive form of minke occurs mainly in the tropical – subtropical region north to at least 12° S, although there are records as far as 58–65° S, while a 'dark shoulder form', *B. bonaerensis*, ranges not quite so far north in winter as the diminutive form (recorded at 21° S), but migrates to the Antarctic ice edge during summer (Bannister *et al.* 1996). Two other migratory rorquals – the fin whale, *B. physalus*, and the sei whale, *B. borealis*, overwinter in subtropical to temperate waters in the Australian region, but they tend to remain well offshore and it is not known whether either species ranges into NT waters (Bannister *et al.* 1996); in any case they rarely strand.

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